SOME SAWFLIES FROM WHITLAW MOSS NATURE RESERVE, SOUTHERN SCOTLAND, WITH A SPECIES NEW TO BRITAIN (HYM.: SYMPHYTA)

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Abstract

30 spp. of sawfly are recorded from Whitlaw Moss National Nature Reserve in Southern Scotland. *Pristiphora micronematica* Malaise is an addition to the known fauna of the British Isles. 7 other rare or local species are discussed.

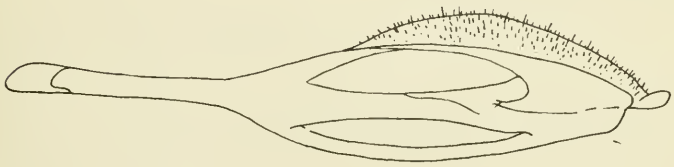

Fig. 1. Penis valve of male *Pristiphora micronematica* Malaise

Introduction

On 22.5.81 and 3.7.81 Mr. J. M. Nelson and the author visited Murder and Blackpool Mosses (NT 505285 and NT517290) in order to sample the sawfly fauna. Aided by good weather during these visits, several noteworthy species were found.

The two mires form part of the Whitlaw Moss National Nature Reserve, situated in Roxburghshire and Selkirkshire. Their interest lies in their wide range of rich-fen communities fed by base-rich ground water. These range from closed *Salix* carr (mainly *cinerea* with some *pentandra*) to open bryophyte-rich carpets and tall-herb communities. Though the reserve was created primarily to safeguard the unique plant communities, several interesting insect species have since been found there: for example, *Coniosternum tinctinervis* Becker (Diptera, Scathophagidae) and *Hydroporus glabriusculus* Aube (Coleoptera, Dytiscidae) were first found in Britain at this locality (Nelson, 1972; Sinclair, 1976).

A considerable boreal element appears to be present in both flora and fauna: e.g. *Dactylorchis purpurella* and *Corallorhiza trifida* (Orchidaceae), certain *Carex* spp. (Cyperaceae) and a large number of insects. This can be explained partly by the relatively high altitude (274m.) and partly by the relict nature of the mosses. *Pristiphora micronematica* Malaise, here introduced to the British list, together with *Phyllocolpa acutiserra*, *P. excavata* and *Nematus*

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monticola are all species with markedly boreal distributions. The other sawflies have wider distributions, occurring throughout most of northern and central Europe. All of the boreal sawfly species so-far recorded at Whitlaw are associated with the *Salix*, particularly *S. pentandra* which itself is a typically northern plant. Of the species feeding on the plants in the herb communities, most are widespread, but a few are more characteristically southern in distribution (*Allantus calceatus, Perineura rubi*). It is interesting that all of the sawflies found at Whitlaw occur in Finland (Saarinen, 1950) and most reach at least as far north as southern Lapland.

All but three specimens were captured during the visits made on 22.5 and 3.7.81, mostly by sweeping. The three others were trapped in orange bowls during May 1980 by Mr. Nelson. The material is now in the author's collection.

Species new to Britain

Pristiphora micronematica Malaise, 1931
= *Lygaeophora leucostoma* Lindqvist, 1952
1 ♂ from *Salix* 22.5.1981.

Full descriptions of both sexes of this species are given by Lindqvist (1952), as *L. leucostoma* Lindqvist. The British specimen was at first thought to be the male of the related *P. lanifica* (Zaddach & Brischke), recently added to the British list on the basis of some females from Edinburgh (Liston, 1981). Further examination showed that it could not possibly be a male *lanifica*, but that it was likely to be a representative of *micronematica* Malaise. It corresponds well with Lindqvist's description of *leucostoma*, and the structure of its penis valve confirms its identity. The sawfly will key to the "C Groups" in Benson (1958). *P. breadalbanensis* (Cameron) and its close allies bear a superficial resemblance to *micronematica*, but examination of the penis valve (Fig. 1) will safely separate the latter.

Below are summarised the most important external characters for the separation of *P. lanifica* and *P. micronematica* as set out by Lindqvist and checked as far as possible against the specimens available to me:

lanifica (Z. & B.) ♀ and ♂. Always with pale marked mesopleura. Underside of abdomen usually with several sternites pale marked. Mesopleura as densely sculptured as lateral lobes of mesonotum. Claws bifid. 3rd and 4th antennal segments subequal in length.

micronematica Malaise ♀ and ♂. Mesopleura always completely black. Underside of abdomen completely black except for hypopygium. Mesopleura feebly sculptured and more shining than lateral lobes of mesonotum. Claws with small inner tooth. 3rd antennal segment much shorter than 4th.

Differences in the saw and sawsheath of the female and the penis valve of the male are also useful (see figures in Lindqvist, 1952). Lindqvist (*l.c.*) records that the femora of most of his Finnish specimens are black. Those of the Scottish male are completely

pale. Variation of this sort is widespread in the Nematinae and seldom of significance.

Benson's (1958) "C Groups" of *Pristiphora* comprise an ecologically fascinating assemblage of smaller, unrelated species-groups whose only common characteristics are their boreal and arctic-alpine distributions and their (usually) sculptured mesopleura. Benson's synthetic groupings of *Pristiphora* species are nevertheless very convenient. More formal division of the genus into several genera or subgenera (eg. Konow, 1902 & 1904: Lindqvist, *l.c.*) has invariably proved inadequate because such groupings have mainly been based on arbitrary ranges of similarity in genitalia. Neither the importance of other morphological characters nor the value of biological data have been taken into account, and one often finds that species with very similar saws for example, can not possibly be closely related. I can see no useful purpose in the retention of these so-called subgeneric names, which in the past have been applied to mere species-groups. Though Lindqvist (*l.c.*) was able to define his subgenus *Lygaeophora* in both sexes using fairly distinctive features (Liston, 1981), I follow Smith (1979) in treating it as synonymous with *Lygaeonematus* Konow, which itself is best treated as a synonym of *Pristiphora* Latreille. In such a large genus as this, synthetic groupings of species such as adopted by Benson (1958) are less cumbersome than the use of subgeneric names of doubtful validity.

Malaise (1931) described *micronematica* from Kamtchatka. Lindqvist (1952) erected a new species, *leucostoma*, for Finnish specimens which had previously been called *micronematica* by various authors. Lindqvist (1971) realised that his *leucostoma* was a form of *micronematica* and synonymised the species. Since the publication of Lindqvist's (1952) revision, *P. micronematica* has been recorded under the name *leucostoma* in northern Canada by Benson (1962). Further records indicate that *micronematica* occurs in Swedish Lapland, Norway and northern Russia (Kontuniemi, 1965). It appears to be the commonest species of the group in Finland, and is particularly abundant in the southern provinces. It is therefore not a particularly surprising addition to our fauna. Perhaps *micronematica* will be found to be a more widespread species in Britain than the less easily overlooked *P. lanifica* (Z. & B.).

Hellén (1975) wrongly synonymised *micronematica* with *lanifica*, but there are numerous biological differences apart from those morphological ones mentioned above. The larva of *micronematica*, briefly described by Lindqvist (*l.c.*), is a solitary leaf-edge feeder on smooth-leaved boreal *Salix* spp. Those of *lanifica* are semi-gregarious leaf-edge feeders on rough-leaved *Salix* (Liston, in press).

Species of special interest

Empria pumila (Konow)

1♀ 22.5.81. Benson (1952) records this species in various southern English counties, Ireland, Perthshire and Invernesshire.

Allantus truncatus (Klug)

1♀ May 1980 (Nelson), trapped in orange bowl placed in *Phragmites*. 1 ♂ 3.7.81. Benson (1952) records this species as uncommon in S. England, and notes that Cameron took it at Rannoch, Perthshire. The Whitlaw female has an entirely black abdomen, thus causing it to resemble *A. melanarius* (Klug), but it does not seem to differ in any other way from typical white-banded C. European *truncatus* females. Conversely, the male, which normally has a completely black abdomen, in this case has its 5th tergite white-marked.

Amauronematus fallax (Lepeletier)

1♀ 22.5.81. Probably local throughout Britain and Ireland, but there are no previous records for Scotland south of Perthshire.

A. fasciatus (Konow)

1♀ 22.5.81. Local and scarce north to Invernesshire, and in Ireland (Benson, 1958).

Phyllocolpa acutiserra (Lindqvist)

1♀ 22.5.81. Single previous British specimen is from Isle of Rhum (Benson, 1958). Whitlaw seems a surprising locality for this species, but the saw of the specimen is unmistakable. *P. acutiserra* is typically arctic-alpine, occurring in Norway, Finland, Scotland, Austrian Tirol, North Russia and Canada. Vikberg (1970) records *Salix lapponum, S. glauca* and *S. hastata* as foodplants, but the range is probably wider.

P. excavata (Marlatt)

1♀ 22.5.81. Previously in Yorkshire, Roxburghs., W. Lothian, Midlothian, Stirlings., and Ireland.

Nematus monticola (Thomson)

1♀ 22.5.81. Previously known from Malham Tarn (Yorks.), Clydesdale (Benson, 1958) and Moor House NNR in Westmorland (Nelson, 1971). Rare in Europe at widely separated localities from northernmost Lapland (Inari) to the Yugoslavian Mts. (Kosovo).

Other species

Trichiosoma lucorum (L.), *Dolerus cothurnatus* Lepeletier, *D. aeneus* Hartig, *D. niger* (L.), *Empria alector* Benson, *Allantus calceatus* (Klug), *Eutomostethus luteiventris* (Klug), *Monophadnoides geniculata* (Hartig), *Perineura rubi* (Panzer), *Tenthredo moniliata* Klug, *T. velox* F., *Sharliphora amphibola* (Förster), *Pristiphora pallidiventris* (Fallén), *P.* sp. near *quercus* (Hartig) (*Betula* "race"), *Amauronematus tillbergi* Malaise, *A. histrio* (Lepeletier), *Euura mucronata* (Hartig), *Phyllocolpa coriacea* (Benson), *Pontania collactanea* (Förster), *P. bridgmanni* (Cameron), *P. viminalis* (L.), *Nematus bergmanni* Dahlbom.

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G. R. SUTTON. – As we go to press, we hear of the sad news of the death on the 3rd of June, in the Southend General Hospital after a brief illness, of Mr. Gresham Rhodes Sutton of Westcliffe-on-Sea, Essex. Born on the 21st of May 1898, Mr. Sutton was thus 84 years of age at the time of his death. His interests were in the lepidoptera and coleoptera. – J. M. C.-H.